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## ABSTRACT

The purpose of this chapter is to review the major curricular orientations which can be found in special education settings for students with mental disabilities. Program orientations differ along two primary dimensions: the amount of time students spend in special settings or with special education personnel, and the extent to which the curriculum differs from that offered in regular education. Three general curricular orientations are examined: (1) remedial models, including programs focused on basic academic skill development/remediation and social skills training; (2) maintenance models, including tutorial approaches, learning strategies, and compensatory techniques; and (3) functional models, including vocational training and approaches which relate to adult outcomes. The particular appropriateness of each approach is a function of a number of variables, including student variables (cognitive-intellectual level, academic achievement, grade placement, motivation/degree of responsibility, and social skills); parent variables (expectations, degree of support provided, value orientation, and cultural factors); regular education/mainstream variables (teacher and nonhandicapped student acceptance of diversity, accommodative capacity of the classroom, options for vocational education, amount of cooperation between regular educators and special educators, etc.); and special education variables (size of caseload, access to curricular materials, focus of teacher's training, and support available to special educators). (JDD)

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## Chapter Two

# *Curricular Orientations*

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## OVERVIEW

Many components of the educational planning process are important but none can have as much impact on what a student learns as the curriculum. Regardless of how well instruction is presented, ultimately concern has to be given to what is taught. Interestingly, it is this very area that teachers feel must be addressed if classroom instruction is to be improved (Halpern & Benz, 1987).

In developing programs for individuals with mental disabilities, the concept of "comprehensive" should become the guiding principle for meeting the diverse needs of students within this population. To accomplish this general goal, curricula should:

1. Respond to the needs of individuals at the present point in time;
2. Balance the need for maximum interaction with nonhandicapped peers with critical curricular needs;
3. Relate to placement (e.g., resource services, self-contained settings, and modified models);
4. Address the transitional needs of students across their schooling and lifespan;
5. Evolve from a realistic appraisal of potential adult outcomes (i.e., a top-down perspective); and
6. Be sensitive to diploma tract goals, especially for students at the secondary level.

These ideas can serve as guidelines for those of us involved in curricular decision-making. However, it is important to note that there are certain variables which affect the way we look at curriculum. One such variable is grade level. What is taught in the early elementary grades differs greatly from what should be addressed in the upper levels of high school. Another variable is severity of the mental disability. For students with severe disabilities whose levels of ability and observed performance are markedly low and for students with problems in the moderate range whose skills are relatively higher but still low, curricula are usually characterized as functional, age-appropriate, and provided in special settings by special personnel. However, for students with mild disabilities, curricula can look very different depending upon where students are placed. Many of these students will receive much of their instruction in regular classes, sometimes with special assistance. For other students for whom regular education is not appropriate but who are capable of handling the content, instruction will occur in special settings. For the most part, their curriculum is academic, often mirroring that of regular education.

There is a current need to reexamine curricular options available for students with mental disabilities. Support for such action has been expressed by teachers (Halpern & Benz, 1987) and is reflected by data suggesting that students are not

interested in what they are being taught. This latter point has been made poignantly clear when one examines the dropout rate of students with special needs (Edgar, 1987).

The main purpose of this chapter is to review the major curricular orientations which can be found in special education settings. Also referred to as the program approach or program model, a particular curricular approach dictates the nature of what a student learns. Zigmond and Sansone (1986) state that program orientations differ along two primary dimensions: (a) the amount of time students spend in special settings or with special education personnel, and (b) the extent to which the curriculum differs from that offered in regular education.

For purposes of our discussion in this chapter, three general curricular orientations will be examined (see Figure 1). Although these may be defined or labeled differently by others, essentially they refer to the following: (a) remedial model, to include programs focused on basic academic skill development/remediation and social skills training; (b) maintenance models, to include tutorial approaches, learning strategies, and compensatory techniques; and (c) functional models, to include vocational training and approaches which relate to adult outcomes. Each of these is further discussed below.

Figure 1

## CURRICULAR ORIENTATIONS

### Remedial Model:

- Basic Skills
- Social Skills

### Maintenance Model:

- Tutorial
- Learning Strategies
- Compensatory

### Functional Model:

- Vocational
- Adult Outcomes

## Remedial Models

### Basic Skills

A basic skills orientation is essentially one that underscores the development or remediation of academic skills. If a particular skill area is being presented for the first time, the developmental label is more appropriate; for a skill already taught but causing problems for a student, the remedial connotation is used. These types of programs emphasize instruction in the areas of reading, language arts, and mathematics.

A basic skills orientation is regularly observed in most elementary special education settings and can be characteristic of many secondary level programs as well. This makes sense if we accept the assumption that direct instruction on specific skills will ultimately increase academic achievement levels and thereby enable students to be reintegrated into regular education or to reach acceptable levels of (a) functional literacy or (b) knowledge/skill attainment required for further education/training.

There are several concerns with a basic skills approach. First, it is deficit-oriented, focusing on student weaknesses and usually neglecting specific strengths and thereby reinforcing their sense of failure. Second, students in these programs often have great difficulty transferring what they have learned to other environments (e.g., regular class settings, postsecondary situations). Systematic attempts to program for generalization are typically absent. Finally, this orientation may be essentially inappropriate for some high school students for whom higher education is not probable and other demands of young adulthood are imminently more important. A significant reason for the continued use of remedial programs with adolescents with learning problems has been the relative lack of other more appropriate curricula for this population. It is not surprising that a number of special educators have therefore questioned the value of continued reliance on this orientation as the primary thrust of secondary-level programs (Alley & Deshler, 1979; Deshler, Schumaker, Lenz, & Ellis, 1984).

In spite of the cautions raised about too heavy a reliance on basic skills programming at the secondary level, teachers are admonished not to abandon this orientation completely. For instance, certain instructional materials which focus on basic skill remediation have been found to be successful with adolescents; one such material is the Corrective Reading Program (CRP) (Engelmann, Becker, Hanner, & Johnson, 1980). This program, based on the principles and methodology of direct instruction, is designed for older students who are experiencing problems in basic reading recognition and comprehension. Some initial research (Campbell, cited in Becker, 1984; Gregory, Hackney, & Gregory, 1982; Polloway, Epstein, Polloway, Patton, & Ball, 1986; Thorne, 1978) suggests that CRP can be effective with older students. The basic rationale for advocating programs like CRP is that students can make gains that can enhance their ability to deal successfully with the demands of adulthood.

Meyen and Lehr (1980) suggest that, given exposure to well-designed and intensive programs with proven track records, significant numbers of adolescents can prosper from academic remediation. However, as Meyen and Lehr point out, intensive instruction must include the following dimensions:

1. Consistency and duration of time on task;
2. Timing, frequency, and nature of feedback based on the student's immediate performance and cumulative progress;
3. Regular and frequent communication by the teacher to the student of his or her expectancy that this student will master the task and demonstrate continuous progress; and,
4. A pattern of pupil-teacher interaction in which the teacher responds to student initiatives and uses consequences appropriate to the responses of the student. (p. 23)

Although there are distinct advantages and disadvantages to using this approach with students who have mental disabilities, a few final comments are warranted. First, even when appropriate, basic skill development/remediation must be well-planned and systematically presented, incorporating the basic principles of effective instruction (see Polloway, Patton, Payne, & Payne, in press; Ysseldyke & Christenson, 1987). Second, for many students, particularly at the secondary level, basic skill remediation must be augmented by instruction in other important areas (e.g., social skills, specific vocational skills, various life skills).

### Social Skills

The second type of remedial model is characterized by an emphasis on social skill acquisition and behavior change. This orientation has been classified as remedial to suggest that it also represents a deficit-type view of students. Rarely is this approach used as the major focus of the curriculum, but when this is the case, it is generally within programs for students who demonstrate extreme emotional/behavioral problems.

For the most part, social skills training is related to three themes: skills acquisition, behavior change, and affective development. There is sufficient evidence to show that students who experience learning-related problems in school also display problems in the social/behavioral area as well. The remediation of social skills orientation attempts to develop skills which will be required for successful adjustment in school and society (e.g., making friends, dealing with authority figures). Efforts may also be directed toward reducing behaviors that will not be tolerated in any setting, such as physical aggression or stealing. Lastly, these types of programs may attempt to develop more positive feelings about oneself or one's place in life.

It is generally recognized that all of the areas described above should be included in the curricula of students with mental disabilities. The content and duration of such instructional efforts often depend on the nature of the program provided and the skills and knowledge of the personnel who work in them. However, programs should be based fundamentally on individual student needs.

As with any orientation, there are cautions which must be heeded. In terms of effectiveness, several considerations are worth examining. First, programs which evidence a strong social skill emphasis must be designed for meaningful change (i.e., should be empirically and socially valid). In other words, such endeavors must have value for the students being taught and for others with whom they come in contact.

Second, programs must be accountable in terms of documented change. All too often, special education has been neither special nor education in the sense that there has been little evidence of change in skills or behaviors. For students at the secondary level, very little time remains to prepare them for the very important social and personal demands and responsibilities that accompany adulthood. As a result, programs must be able to deliver results.

The third area of concern has to do with the recurrent issue of generalizing skills acquired in the classroom to other, noninstructional situations. To justify the continued use of any program, it must be demonstrated that it can contribute to a student's success in subsequent environments.

Lately, interest in the problems of generalized ability has promulgated an increasing amount of attention on the use of cognitive techniques (e.g., self-monitoring, self-regulation) for developing social skills and changing behaviors. Such programs, when they can demonstrate internalization on the part of students, offer encouragement for future programmatic efforts within this curricular orientation.

### Maintenance Model

#### Tutorial Orientation

The most salient characteristic of tutorial intervention is helping students deal successfully with content presented outside of the special education setting. Most commonly associated with resource room services at the secondary level, it is directed at maintaining students within the regular education curriculum.

There are several apparent reasons tutorial approaches have been, and continue to be, popular in special education settings. One reason is that students are motivated by this type of service, resulting from the attention they receive and from the success (e.g., better grades) they experience in their regular education classes. Parents react favorably to this orientation because their children can participate in regular education (i.e., diploma programs) with the support that is needed. Regular classroom teachers often like tutorial approaches as they are relieved from having to spend extra time and effort working with students who are having difficulty. As expected, this feature also has political merit since special educators are viewed as helping make the regular educators' job less difficult.

Despite the potential benefits of this way of working with students, and given the fact that all special education teachers engage in some form of tutoring, this approach has to be considered a strategy that helps students in the short-term but is of limited value in the long-term. The most glaring limitations of the tutorial approach are presented below:

1. Concern for whether the content (i.e., in regular education) being presented is relevant to the present and future needs of students;
2. The need for special education teachers to provide instruction in subject areas for which they have inadequate preparation -- a situation which is compounded by certification standards which allow elementary-trained special education teachers to teach at the secondary level (Leigh & Patton, 1986); and
3. The fact that, aside from the subject matter concern raised above, much of what is considered to be tutoring (e.g., making sure students understand directions, ensuring that they finish assignments) does not require specialized training and in many cases could be performed by paraprofessionals.

The major implication of this orientation is that it has short-term outcomes. It is this very feature that marks its major advantage as well as its various detractions. For most students with mental disabilities it will not be the most appropriate curricular choice for preparing them for life after school.



## Learning Strategies

The learning strategies model is of relatively recent invention and has enjoyed a popular response from the special education community. This is an approach that has distinctive cognitive underpinnings, emphasizing the acquisition of task strategies which can be used across settings, teachers, and subject and skill areas.

Much of the initial work with learning strategies was done at the University of Kansas as part of the research focus of the Institute for Research on Learning Disabilities. Alley and Deshler (1979), two individuals with whom this line of research and program development is most often associated, indicate that the development of learning strategies is most appropriately used in resource settings where the principal goal is to teach skills and then generalize them to the regular classroom, thus underscoring the theme of maintaining students in these settings.

It must be recognized that certain students may benefit the most from this approach. Alley and Deshler (1979) suggest the best candidates are adolescents who possess: (a) reading skills above the third grade level; (b) the ability to deal with symbolic as well as concrete learning tasks; and (c) average or above average intellectual abilities--minimum IQ of 85. Even though these guidelines should serve as valid in most cases, components of this approach can be effectively used with groups beyond this target population. Specifically, selected strategies may be appropriate for younger students as well as for pupils whose achievement and cognitive levels are not congruent with the suggested levels.

A comprehensive discussion of the learning strategies approach is beyond the scope of this chapter. However, to illustrate its place in the total context of curricular choices, a brief overview of how learning strategies are taught is provided. A precise methodology has been developed and includes the following eight steps (Ellis & Sabornie, 1986):

1. Pre-test in relation to the strategy to be taught and obtain a commitment from the student to learn.
2. Describe the particular strategy.
3. Model the strategy.
4. Engage the student in the verbal rehearsal of the steps associated with the particular strategy.
5. Practice applying the strategy in controlled materials (i.e., materials with reading levels that the students can handle easily).
6. Practice applying the strategy in content materials (i.e., materials that are part of the regular curriculum).
7. Obtain a commitment to generalize the strategy.
8. Achieve generalization through three phases:
  - o orientation to generalization



- o activation: moving from explicit to less explicit instructions and assignment
- o strategy maintenance.

This approach to working with special learners offers much promise and excitement, especially for students at the middle/intermediate and high school levels. Yet, there are other facets of this approach which teachers should be aware when considering the possible adoption as the major programmatic thrust. First, like other approaches already discussed, over-reliance on learning strategies could easily result in limited attention to other critical curricular needs of students. Second, there are motivational concerns associated with this approach; for some students, its hard to sell techniques that do not have short-term, immediate payoffs in spite of the long-term benefits. Third, there are relatively few data substantiating the generalizability of these strategies. Students who demonstrate mastery of specific strategies after being taught them in special settings but who cannot apply them in other situations do not reap long-term benefits either.

### Compensatory Approach

The main purpose of this approach is to teach students how to live realistically with the specific problems they have in an unsympathetic world. It is considered under the umbrella of maintenance models because there is no attempt to improve the problem area (e.g., making the person a better speller) but rather attention is directed on maintaining individuals in their respective environments by developing ways to avoid problematic areas.

There are relatively few school-based curricula that are dominated by an emphasis on this orientation; however, many programs may include aspects of this approach. One might consider compensatory techniques to be one of two types: traditional and creative. The former includes teaching students how to use commonly accepted devices such as calculators and tape recorders. The latter can be characterized by less common techniques such as putting on fake casts in situations where writing is required, buying well-highlighted "used" books, or regularly getting copies of lecture notes from peers who are good notetakers. As can be seen, all of these examples assist the individual in compensating for a particular difficulty.

Compensatory approaches do have long-term value in that they can help students be more successful over a period of time. However, they also are not without drawbacks because they do not always work--there are times when they break down, leaving the individual somewhat helpless. For this reason, total reliance on these types of techniques also runs the risk of being too restrictive.

### Functional Model

The two functional models discussed in this section are interrelated in that both address areas relate to the transitional needs of students. Neither approach is new, but their popularity vacillates with the spirit of the times. Along with the increased attention to tranistion, there has been a rekindling of interest in these approaches.

### Vocational Training

This model has a long history and typically has been associated with the secondary programs of students with mild/moderate retardation. A classic example of this type of program is the work-study model described by Kolstoe and Frey (1965). More recently, vocational emphases can be observed in programs for students whose problems range from mild to severe. A percentage of federal monies (Vocational Education Act) directed to help support state level vocational education programs is earmarked for special populations. However, the way this money is used to provide vocational training to students with handicaps is subject to significant interstate variation.

It is interesting to note the number of students with special needs who participate in vocational programs. Recently published data indicates that less than four percent of students enrolled in vocational education are composed of students with disabilities (Council of Chief State School Officers, 1986). As Patton and Browder (1988) point out, far too many students with mild disabilities leave high school with few options. Some of these students, particularly those for whom postsecondary education or other formal training is not appropriate, might have earned a diploma but have not gained any marketable vocational skills.

Another area of concern is vocational assessment. The amount of career/vocational information generated on students with special needs is glaringly absent in most cases. Furthermore, even when assessment data have been obtained, this information is not used for instructional purposes: IEP's, lesson plans, and instructional activities (Meehan & Hodell, 1986).

The most notable advantage of vocational training is that it directly addresses one of the major components of transitional planning: employment. There is also a motivational feature for many students whose likelihood of dropping out of school is great unless they sense some relevance and meaningfulness in this schooling process.

Current research efforts in the area of vocational training for students and adults with moderate and severe disabilities have identified two key instructional principles. The first is the need for community-based learning opportunities as an alternative to classroom-based instruction which simulates the real situations. The probability that generalization will occur is greatly increased when realistic training settings are utilized. The second area of interest is the success of training programs which incorporate the concept of supported employment. This technique places individuals into job situations along with a job coach who provides needed assistance. As time goes on, the supportive assistance is gradually faded out.

A curricular orientation which emphasizes vocational training without attention of other adulthood needs is subject to the same criticisms of other approaches which are too narrow in focus. Yet, there is a great need to provide some vocational training to most students with mental disabilities.

### Adult Outcomes Approach

This curricular orientation is designed to prepare students with mental disabilities for many different adult scenarios, emphasizing the critical need for life skills preparation. The importance of adequate preparation for adulthood is discernable upon examination of the many demands placed upon young

adults. Knowles (1978) suggested that the problems with which young adults must deal fall into six basic categories: vocation and career, home and family living, personal development, enjoyment of leisure, health, and community living. If you think about these areas in the context of traditional curricula, one realizes that most programs do not address many of the specific demands associated with these six categories. For instance, competence in managing one's personal finances, selecting a mate, establishing and maintaining intimate relationships, making use of personal counseling, choosing hobbies, developing a healthy life style, learning how to get help and use community services, or buying automobile insurance is essential for most young adults. Most of us learn these skills incidentally or informally even though we were never taught them. Unfortunately, a vast majority of students with special needs do not acquire skills and knowledge very well in this manner.

Adult outcome approaches reflect a comprehensive "top down" orientation to curricula development. That is, they must address a range of life skills and be sensitive to the realities of the community into which students will be moving. Curricula should be developed only after adult needs are identified. Furthermore, functional curricula should be diploma-generating; there are examples of such efforts (see LaQuey, 1981). A more thorough discussion of this type of curriculum is provided in Chapter 3 of this monograph.

When considering the needs of students who probably will not go on to college or seek other types of formal training and who have experienced years of difficulty in school, there is a real interest in providing curricula which radically shift attention away from the academic problems and place it on the immediate and future needs of students. For this reason, this type of curriculum will often be perceived by students as more meaningful and personally useful.

There are cautions here as well. This orientation must be viewed within the total scope of transitional planning for students with mental disabilities. The life skills taught in this approach must be supplemented by instruction in other areas, namely vocational training and social skill development. Moreover, poorly conceived adult outcome curricula may be of little immediate or long-term value to students. To date, few programs have been developed and not many of these have been validated.

### Curricular Decision-Making

The previous discussion has focused on seven distinctive curricular models which can be used with students with mental disabilities. The particular appropriateness of each approach is a function of a number of key variables. Based on the work of Dangel (1981) and Vergason (1983), the following list outlines these key factors that must be considered in the selection and implementation of curricula for learners with special needs.

#### 1. Student Variables

- o cognitive-intellectual level
- o academic achievement
- o grade placement
- o motivation and degree of responsibility
- o social skills

2. Parent Variables

- o expectations
- o degree of support provided (e.g., financial, academic)
- o value orientation
- o cultural factors

3. Regular Education/Mainstream Variables

- o teacher and nonhandicapped student acceptance of diversity
- o administrative support
- o availability of variety in curriculum
- o accommodative capacity of the classroom
- o flexibility
- o options for vocational education
- o amount of cooperation between regular educators and
- o special educators

4. Special Education Variables

- o size of caseload
- o access to curricular materials
- o focus of teacher's training
- o support available to special education teachers

Given the theme of this chapter, the discussion of the various models, and the list of variables which should be considered in making curricular decisions, it is obvious that program design is not only important but also a complex process. Therefore, the practice of matching a curricular model with a particular group label, while commonplace, is unwarranted and unacceptable. Programs must be chosen that are appropriate in terms of the present and future needs of students for whom they have been designed.

## REFERENCES

- Alley, G. R. & Deshler, D. D. (1979). Teaching the learning disabled adolescent: Strategies and methods. Denver: Love Publishing.
- Becker, W. (1984). Corrective reading program evaluated with secondary students in San Diego. Association for Direct Instruction News, 3(3), 1, 23.
- Council of Chief State School Officers (1986). Disabled students beyond school: A review of the issues, a position paper and recommendations for action. Washington, DC: Author.
- Dangel, H. (1981). Curricular and programmatic approaches in special education. GA: Georgia State University.
- Deshler, D. D., Shumaker, J. B., Lenz B. K., & Ellis, E. (1984). Academic and cognitive interventions for LD adolescents: Part II. Journal of Learning Disabilities, 17, 170-179.
- Edgar, E. (1987). Secondary programs in special education: Are many of them justifiable? Exceptional Children, 53, 555-561.
- Engelmann, S., Becker, W. C., Hanner, S., & Johnson, G. (1980). Corrective reading program. Chicago: Science Research Associates.
- Gregory, R. P., Hackney, C. & Gregory, N. M. (1982). Corrective reading program: An evaluation. British Journal of Educational Psychology, 52, 33-50.
- Halpern, A.S. & Benz, M. R. (1987). A statewide examination of secondary special education for students with mild disabilities: Implications for the high school curriculum. Exceptional Children, 54, 122-129.
- Kostoe, O. P. & Frey, R. M. (1965). A high school work study program for mentally subnormal students. Carbondale, IL: Southern Illinois University Press.
- Knowles, M. (1978). The adult learner: A neglected species (2nd ed.). Houston: Gulf Publishing Co.
- LaQuey, A. (1981). Adult performance level adaptation and modification project. Austin, TX: Educational Service Center, Region XIII.
- Leigh, J. E. & Patton, J. R. (1986). State certification standards for teachers in the area of learning disabilities. Learning Disability Quarterly, 9, 259-267.
- Meehan, K.A. & Hodell, S. (1986). Measuring the impact of vocational assessment activities upon program decisions. Career Development for Exceptional Individuals, 9, 106-112.

- Meyen, E.L. & Lehr, D.H. (1980). Evolving practices in assessment and intervention for mildly handicapped adolescents: The case for intensive instruction. Exceptional Education Quarterly, 1(2), 19-26.
- Patton, J.R. & Browder, P. (1989). Transitions into the future In B. Ludlow, R. Luckasson & A. Turnbull (Eds.), Transitions to adult life for persons with mental retardation: Principles and practices. Baltimore: Paul H. Brookes Publishing.
- Polloway, E.A., Epstein, M.H., Polloway, C.H., Patton, J.R. & Ball, D.W. (1986). Corrective reading program: An analysis of effectiveness with learning disabled and mentally retarded students. Remedial and Special Education, 7(4), 41-47.
- Polloway, E.A., Patton, J.R., Payne, J.S. & Payne, R.A. (in press). Strategies for teaching special needs learners. Columbus OH: Merrill Publishing Co.
- Thorne, M.T. (1978). Payment for reading: The use of the corrective reading scheme with junior maladjusted boys. Remedial Education, 13(2), pp. 87-90.
- Vergason, G.A. (1983). Curriculum content. In E.L. Meyen, G.A. Vergason & R.J. Whelan (Eds.), Promising practices for exceptional children: Curriculum implications (pp. 127-142). Denver: Love Publishing.
- Ysseldyke, J.E. & Christenson, S.E. (1987). Evaluating students' instructional environments. Remedial and Special Education, 8(3), 17-24.
- Zigmond, N. & Sansone, J. (1986). Designing a program for the learning disabled adolescent. Remedial and Special Education, 7(5), 13-17.